



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RB H4713
Job Sheet R191278



Part No: RB H4713

Job Qty: 5 pcs

Part Name: Drain Hose



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/26/19

Job Tracking No: per ECN19-546

Due Date: 3/5/19

Created By: Linda Lacelle

Type: Rework

Description:

Note: DWG RB H4713 Rev 4 IPP Rev A 18.02.23 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Small Fab - 1	5 pcs	3/5/19	0.00	0.63		Small Fab - 1		<i>Completed already done</i>
							Small Fab - 2		
							Small Fab - 3		
							Small Fab - 4		
							Small Fab - 5		
							Small Fab - 6		
							Small Fab - 7		
110	QC 5	5 pcs	3/5/19	0.00	0.00		QC 5 - 10		<i>[Signature]</i>
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 42		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
130	Packaging 3-1 - Stock - B4B	5 pcs	3/5/19	0.00	0.00		Packaging 3 - 1 - B4B		
							Packaging 3 - 2 - B4B		
							Packaging 3 - 3 - B4B		
							Packaging 3 - 4 - B4B		
							Packaging 3 - 5 - B4B		
							Packaging 3 - 6 - B4B		
							Packaging 3 - 7 - B4B		

					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
140	QC 21 - FG	5 pcs	3/5/19	0.00 0.00	QC 21 - FG - 21	
					QC 21 - FG - 70	
					QC 21 - SA - 53	
Part Op 100 - (Small Fab) Assemble and pack as per DWG. Install a 1.0" long, 0.38" OD, 0.25" ID piece of Stainless Steel into Descriptions: one end of the Kuri-Tech Hose until flush. Attach the modified end of the Kuri-Tech Hose to the Coupling before placing tool into packaging (if applicable). 110 - (QC5- Inspect part completeness to step on W/O) 130 - (Identify as per dwg & Stock Location: _____) Identify and Stock 140 - (QC21- Final Inspection - Work Order Release)						
Job BOM						
Part / Item	Component Name	Quantity	Operation	Container		
RB H4713	Drain Hose	5 pcs (1 ea)	100-Small Fab - 1	5143274		
M304TR0.375W.065	304 Round Tube .375 X .065W	.4150 ft (.083 ea)	100-Small Fab - 1			
Job Allocations						
Operation	Component Part	Required	Inventory	Allocated		
100-Small Fab - 1	M304TR0.375W.065	0	57	0		
	RB H4713	5	5	0		
Part Specifications						
Specifications could not be found.						

Linda Lacelle

From: Vanessa Morel
Sent: Tuesday, February 26, 2019 8:02 AM
To: Linda Lacelle; Michael Lee; Steven Drouin; Mychel Beauregard; Daniel Paquette
Cc: Jean-Luc Menard
Subject: RE: more ECN reworks and URF's

See answers in Red

Vanessa Morel

Mechanical Design Leader

DART AEROSPACE

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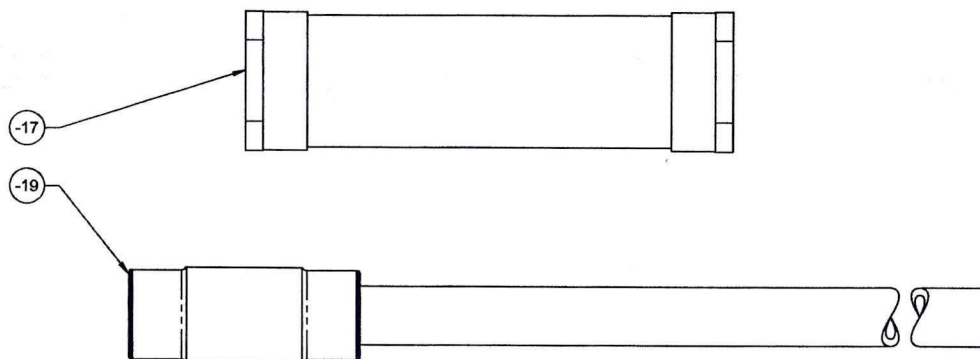
From: Linda Lacelle
Sent: Monday, February 25, 2019 2:53 PM
To: Michael Lee <mlee1@dartaero.com>; Steven Drouin <sdrouin@dartaero.com>; Mychel Beauregard <mbeauregard@dartaero.com>; Vanessa Morel <vmorel@dartaero.com>; Daniel Paquette <dpaquette@dartaero.com>
Cc: Jean-Luc Menard <jmenard@dartaero.com>
Subject: more ECN reworks and URF's
Importance: High

Sigh....can someone please give me some direction on what needs to be reworked on each of these ? I have these piling up and don't want something not conforming going out the door. I am alone doing all of these, and would like to get these done asap...

ECN19-546 – what needs to be reworked? Drwg does not state what has changed – RB H4713 – 5 in stk Sleeve need to be added into the hose assy

ECN19-561 – what needs to be reworked? Drwg does not state what has changed – is it jst the McMaster part? RBE703A95-0520-01 – 5 in QRTN Sleeve n be added into the hose assy

ITEM #	QTY	PART #	PART TITLE
-17	1	RB H4713-17	TRANS. & GEAR BOX DRAIN TOOL ASSEMBLY
-19	1	RB H4713-19	TRANS. & GEAR BOX DRAIN TOOL HOSE ASSEMBLY



RB H4713 TRANS. & GEAR BOX DRAIN TOOL

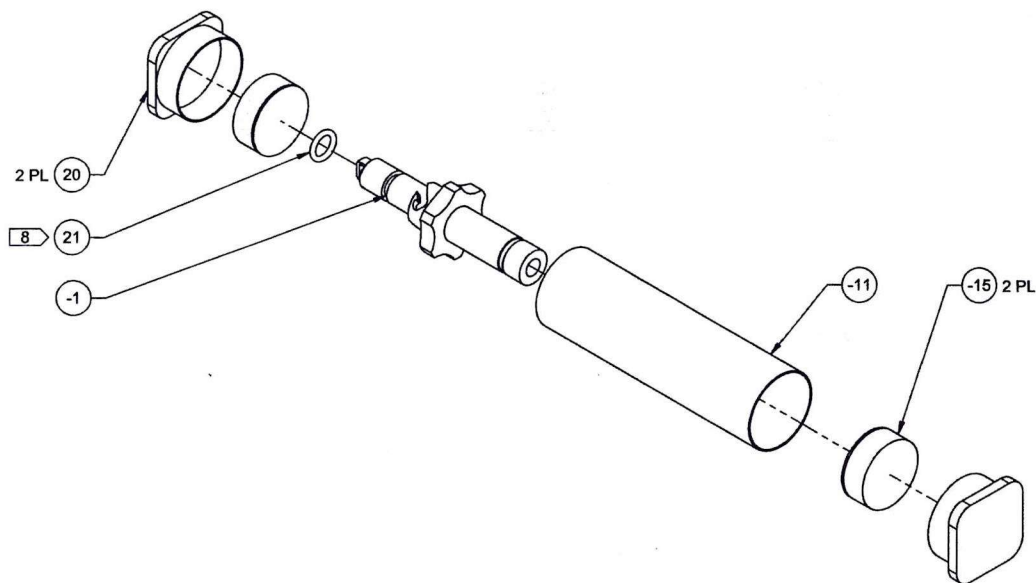
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NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = $\pm 0.1"$ / $\pm 1^\circ$
X.XX = $\pm 0.01"$ / $\pm 0.5^\circ$
X.XXX = $\pm 0.005"$ / $\pm 0.1^\circ$
X.XXXX = $\pm 0.0005"$ / $\pm 0.05^\circ$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = $\pm 0.005"$
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) ASSEMBLE AS SHOWN
- 8) PLACE ITEM -19 COILED INTO A TIGHT FITTING SEALED PLASTIC BAG WITH ITEM -17

SEE PREVIOUS REVISION FOR MORE INFORMATION		19-546		MBB	
E		UPDATED DRAWING TEMPLATE		ADDED ITEMS -17 & -19	
REV.	DESCRIPTION			ECN #	BY
DESIGN	MBB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWN	MBB				
CHECKED	KPT	TOOL PART #		REV. E	
MFG. APPR.	DP	RB H4713		SHEET 1 OF 6	
APPROVED	WP	TITLE		SCALE	
DATE 2/25/2019		TRANS. & GEAR BOX DRAIN TOOL		NTS	
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ITEM #	QTY	PART #	PART TITLE
-1	1	RB H4713-1	BODY
-11	1	RB H4713-11	TUBE
-15	2	RB H4713-15	FOAM
20	2	McMaster#2044T67 OR EQUIV.	VINYL END CAP FOR 1.09" ID. SHIPPING TUBE
21	1	McMaster#9263K642 OR EQUIV.	VITON O-RING 7.8 mm ID. X 11.6 mm OD. X 1.9 mm WD.

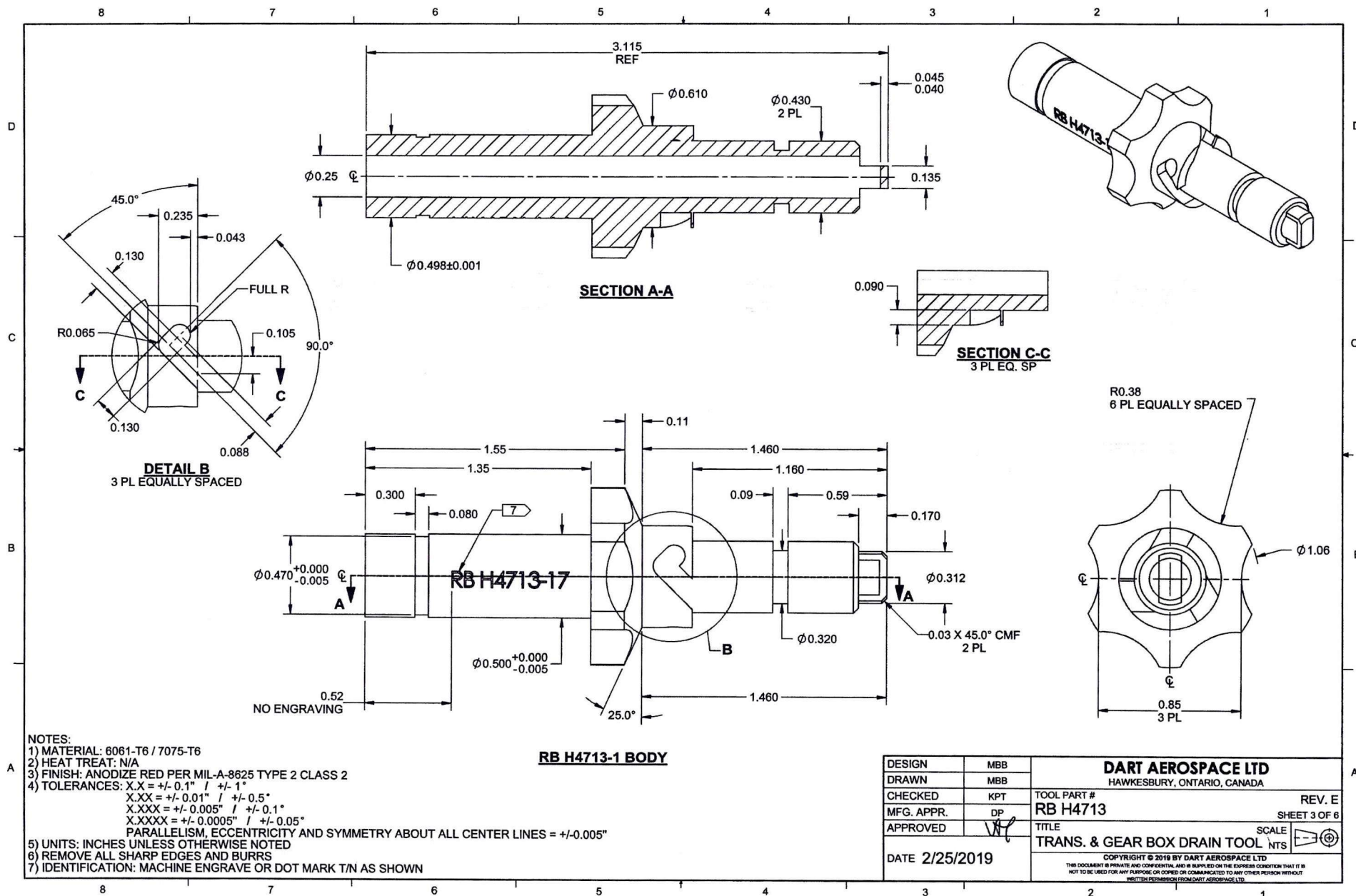


RB H4713-17 TRANS. & GEAR BOX DRAIN TOOL ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) ASSEMBLE AS SHOWN
- 8) APPLY MOLYKOTE 55 OR EQUIVALENT ON ITEM 21 THEN ASSEMBLE WITH ITEM -1 AND REMOVE EXCESS

DESIGN	MBB	DART AEROSPACE LTD	
DRAWN	MBB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	TOOL PART #	REV. E
MFG. APPR.	DP	RB H4713	SHEET 2 OF 6
APPROVED	VP	TITLE	SCALE
DATE 2/25/2019		TRANS. & GEAR BOX DRAIN TOOL	NTS
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8 7 6 5 4 3 2 1

D

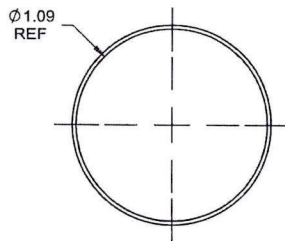
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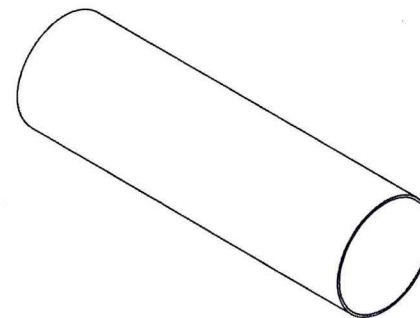
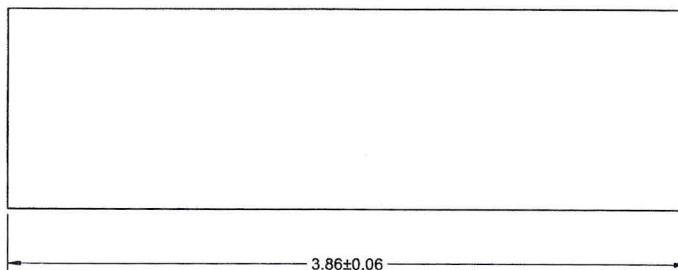
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B

B



RB H4713-11 TUBE



NOTES:

- 1) MATERIAL: McMaster#2044T67 OR EQUIV. (POLYETHYLENE ROUND SHIPPING TUBE Ø1.09" ID.)
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
 X.XX = +/- 0.01" / +/- 0.5°
 X.XXX = +/- 0.005" / +/- 0.1°
 X.XXXX = +/- 0.0005" / +/- 0.05°
 PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

DESIGN	MBB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MBB	TOOL PART #	REV. E
CHECKED	KPT	RB H4713	SHEET 4 OF 6
MFG. APPR.	DP	TITLE	SCALE
APPROVED	<i>VP</i>	TRANS. & GEAR BOX DRAIN TOOL	NTS
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8 7 6 5 4 3 2 1

A

A

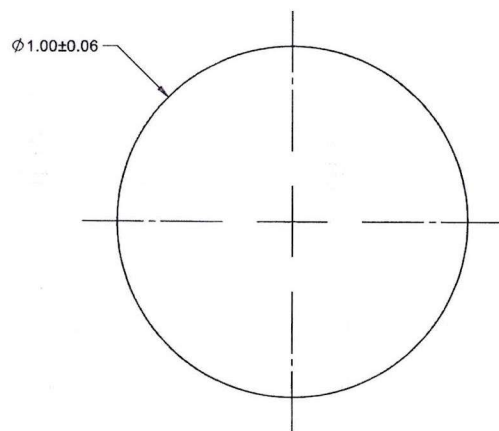
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D

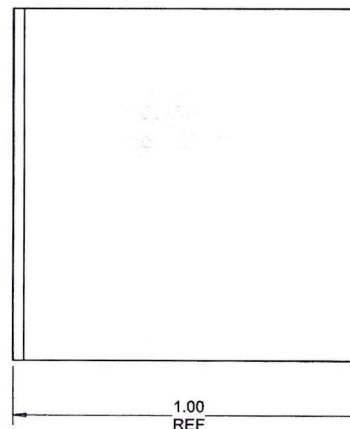
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RB H4713-15 FOAM



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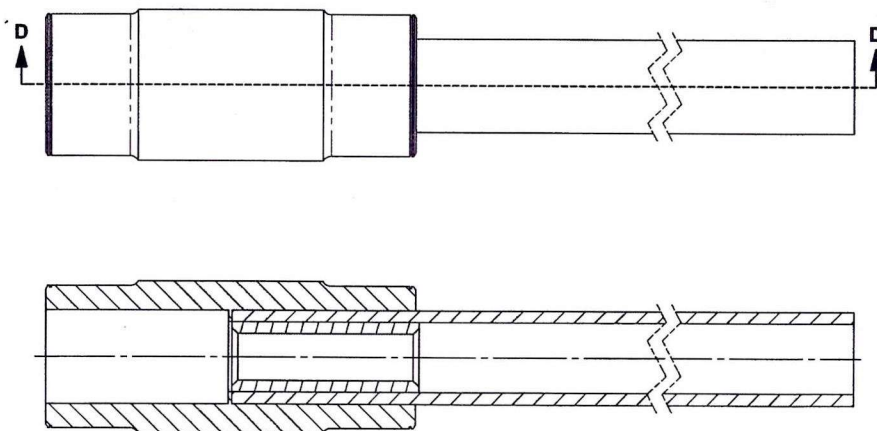
NOTES:

- 1) MATERIAL: NewPig#PAD210 OR EQUIV. (FOAM POLY-BACKED OIL ABSORBENT 1" THK.)
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
 X.XX = +/- 0.01" / +/- 0.5°
 X.XXX = +/- 0.005" / +/- 0.1°
 X.XXXX = +/- 0.0005" / +/- 0.05°
 PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A

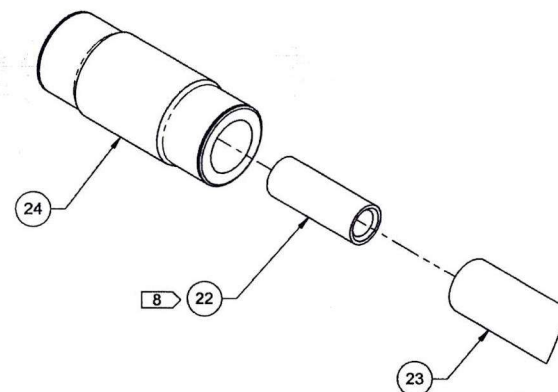
DESIGN	MBB	DART AEROSPACE LTD	
DRAWN	MBB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	TOOL PART #	REV. E
MFG. APPR.	DP	RB H4713	SHEET 5 OF 6
APPROVED	<i>Wp</i>	TITLE	SCALE
DATE 2/25/2019		TRANS. & GEAR BOX DRAIN TOOL	NTS
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8 7 6 5 4 3 2 1

ITEM #	QTY	PART #	PART TITLE
22	1	DTSP10001	SLEEVE
23	1	Kuri-Tec#K010-0608 OR EQUIV.	CLEAR PVC TUBING 1/2" OD. X 3/8" ID. X 72" LG.
24	1	McMaster#51495K116 OR EQUIV.	NICKEL-PLATED BRASS PUSH-TO-CONNECT 1/2" OD. TUBE FITTING



SECTION D-D



RB H4713-19 TRANS. & GEAR BOX DRAIN TOOL HOSE ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = $\pm 0.1"$ / $\pm 1"$
X.XX = $\pm 0.01"$ / $\pm 0.5"$
X.XXX = $\pm 0.005"$ / $\pm 0.1"$
X.XXXX = $\pm 0.0005"$ / $\pm 0.05"$
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = $\pm 0.005"$
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) ASSEMBLE AS SHOWN
- 8) INSTALL ITEM 22 INTO ONE END OF ITEM 23 UNTIL FLUSH

DESIGN	MBB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MBB	TOOL PART #	REV. E
CHECKED	KPT	RB H4713	SHEET 6 OF 6
MFG. APPR.	DP	TITLE	SCALE
APPROVED	<i>[Signature]</i>	TRANS. & GEAR BOX DRAIN TOOL	NTS
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ENGINEERING CHANGE NOTICE
DART AEROSPACE LTD

Date:	19.02.25	Job No.:	RB18-BELL	ADR Yes/No:	N	ADR Date:		ECN #:	19- 546
Product No.:	DART TOOLING BELL			Created By:	VM	Approved By:	VH		
Product Name:	TRANS. & GEAR BOX DRAIN TOOL			Checked By:	hjt				

Reason for Change:
PRODUCTION ISSUE

Documents Released:

RB H4713 REV E

IF APPLICABLE: **NCR:** _____ **PAR:** _____ **CAR:** _____ **CIR:** _____ **URF:** 19-546

PAPERWORK UPDATE ☐

PARTS MUST COMPLY ☒

PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance / Customer Support Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Airbus	N			
3	Notify Leonardo	N			
4	Manufacturing Licensing Agreement Update	N			

#	Engineering Actions	Reqd	Resp	Notes	Complete
5	Required Documents/Drawings/Item ID's Under Review (URF)	N			
6	Update Master Document List (MDL)	N			
7	Update Document Record (DR)	N			
8	Update Product Compatibility Matrix	N			
9	Notify TC / FAA of Change (eg. ICA, 8110-3)	N			
10		N			

#	Document Control Actions	Reqd	Resp	Notes	Complete
11	Move / Update Electronic Files / Design Journal	Y	MD		md 19.02.25
12	Update Product Specification Files (Bluefiles)	N			
13	Update Approved/Preliminary Dwg PDF Files	Y	MD		md 19.02.25
14	Update Product Development Summary (STC applications)	N			
15	Update QSI 021 (TC/FAA STC) and/or STC Approval List	N			
16	Create/Update Parts / STC Database	Y	MD		md 19.02.25
17	Update / Verify Authorized Release Certificate Database	YH	MD		md 19.02.25
18	Create / Update Change Record Form / Item Card Database	YH	MD		md 19.02.25
19	Create / Update Packaging Process Plan (PPP)	N			
20	Red Decals required on Packaging Process Plan (PPP)?	N			
21	Update Controlled Supplier Documents (Qpulse) Database	N			
22	Update Grey Project Binder / Electronic Project Folder	N			
23	Update D-Part / M-Drawing / DSI / DEO Master Binders	N			
24	Update "Royalty Paid to" attribute (Parts sold under Dart USA STC's)	N			
25					

Description / Action:

UPDATE WEBSITE TOOL NAME "TRANS. & GEAR BOX DRAIN TOOL"
STOCK CAN BE REWORK PER REV E
RELEASE RB H4713 REV E DRAWING
PLACE DRAWING RB H4713 REV 4 IN SUPERCEED FOLDER
CLOSE URF19-546

ECN Verified & Complete: _____ Date: _____